

Claims

506
207

1. A belt retractor for an occupant restraint system,
5 comprising a frame, a belt spool, having a pair of flanges
and rotatably mounted in said frame, and a locking mechanism
for selective blocking of said belt spool, said locking
mechanism comprising an external tothing on at least one of
said pair of flanges and a locking pawl pivotally mounted on
10 said frame for selective engagement with said external
tothing, said locking pawl being biased into an engaged
position and capable of being moved by means of a solenoid
into an inactive position out of engagement with said
external tothing.

15
2. The belt retractor according to Claim 1, wherein
said external tothing is formed on a wheel member on said
one flange of the belt spool, said flange extending radially
beyond said wheel member member and said locking pawl
20 bearing laterally on said flange.

3. The belt retractor according to Claim 2, wherein
said locking pawl additionally bears laterally on said frame
on a side facing away from the flange of the belt spool.

25
4. The belt retractor according to Claim 3, wherein
said frame has a side wall with a main section and a
parallel offset wing connected to the main section by a bent
wall strip, a bearing recess extending within said wing
30 through said bent wall strip and into the main section of

the side wall, said locking pawl having a rounded end pivotally accommodated in said bearing recess.

5 5. The belt retractor according to Claim 4, wherein said parallel offset wing, said wheel member and said locking pawl lie in a common plane.

2
6. The belt retractor according to Claim 1, wherein a laterally projecting armature plate of ferromagnetic material is rigidly connected to the locking pawl.
10

7. The belt retractor according to Claim 1, wherein said belt spool is connected to an electric motor by a toothed belt, the electric motor being mounted on a base plate together with a printed circuit board that holds motor controlling circuitry, said base plate being supported on a side wall of said frame in such a way as to pivot to a limited extent, the toothed belt being set under tension by a pivoting motion of the base plate as a function of driving torque.
15
20

8. The belt retractor according to Claim 7, wherein said solenoid is also mounted on said printed circuit board.

25 9. The belt retractor according to Claim 8, wherein said locking pawl is spaced from said solenoid a distance that remains essentially unchanged when the base plate is pivoted.

30

10. The belt retractor according to Claim 1, comprising
means for detecting rotational acceleration of said belt
spool and triggering means for deactivating said solenoid
upon detection of an acceleration exceeding a predetermined
5 threshold value.

add
A3